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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,745	10/15/2001	Anthony John Peach	GH-01383	8923

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EXAMINER

SINGH, SUNIL

ART UNIT PAPER NUMBER

3673

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/889,745

Applicant(s)

PEACH ET AL.

Examiner

Sunil Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to because of the following informalities: Claim 6 is still confusing because it appears that the rock boring device is pivotable about an axis **transverse** the boom not **longitudinal**.. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodine (US 4527637).

Bodine discloses a rock boring device (see Fig. 10) including a rotary cutter, wherein said rotary cutter is driven in an oscillating manner and movable in a nutating manner (see col. 6 line 35+). Bodine discloses the invention substantially as claimed. However, Bodine is silent about his cutter being a disc cutter. Roller cone cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al. US 4341273). It would have been considered obvious to one skilled in the art to modify Bodine by substituting a cutter (disc) as is well known in the art for the roller cone cutter as disclosed by Bodine since it is an obvious design choice to substitute one known cutter for another known cutter.

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3. Claims 1, 3-7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoebe (US 6357831) in view of Bodine.

Stoebe discloses a rock boring machine, a rock boring device is mounted on a boom, the boom can pivot about both a horizontal and vertical axis. The rock boring device is pivotable about a transverse axis to the boom. The rock boring machine is anchored (see Figs. 1,2). Stoebe discloses the invention substantially as claimed. However, Stoebe's rock boring device is not a rotary disc that can oscillate and nutate. Bodine teaches an oscillating and nutating rotary cutter (see col. 6 line 35+). Roller cone cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al. US 4341273). It would have been considered obvious to one of ordinary skill in the art to modify Stoebe by substituting the rock boring device as taught by Bodine with the roller cone cutters replaced with disc cutters as is well known and old in the art for the rock boring device disclosed by Stoebe since it cuts more effectively.

4. Claims 1, 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubois (US 3663054) in view of Bodine.

Dubois discloses a rock boring machine, a rock boring device is mounted on a boom, a plurality of rock boring devices are carried by the rock boring machine (see Fig. 1). Dubois discloses the invention substantially as claimed. However, Dubois's rock boring devices are not rotary discs that can oscillate and nutate. Bodine teaches an oscillating and nutating rotary cutter (see col. 6 line 35+). Roller cone cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al.). It would have been considered obvious to one of ordinary skill in the art to modify Dubois by

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substituting the rock boring device as taught by Bodine with the roller cone cutters replaced with disc cutters as is well known and old in the art for the rock boring devices disclosed by Dubois since it cuts more effectively.

5. Claims 1, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 6062650) in view of Bodine.

Smith et al. discloses a rock boring machine, a rock boring device is mounted on a boom, the angle of the rock boring device is controlled by a computer program (see col. 9 line 10+). Smith et al. discloses the invention substantially as claimed.

However, Smith et al. rock boring device is not a rotary disc that can oscillate and nutate. Bodine teaches an oscillating and nutating rotary cutter (see col. 6 line 35+). Roller cone cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et). It would have been considered obvious to one of ordinary skill in the art to modify Smith et al. by substituting the rock boring device as taught by Bodine with the roller cone cutters replaced with disc cutters as is well known and old in the art for the rock boring device disclosed by Smith et al. since it cuts more effectively.

6. Claims 1, 2, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bechem et al. (US 4796713).

Bechem et al. discloses a rock boring device (see Figs. 2,6) including a rotary cutter, wherein said rotary cutter is driven in an oscillating manner and movable in a nutating manner (see col. 2 lines 32-60). The mounting section is angularly offset from the driven section (see Fig. 6). Bechem et al. discloses the invention substantially as claimed. However, Bechem et al. is silent about his cutter being

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a disc cutter. Roller cone cutters, hemispherical cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al. US 4341273). It would have been considered obvious to one skilled in the art to modify Bechem et al. by substituting a cutter (disc) as is well known in the art for the hemispherical cutter as disclosed by Bechem et al. since it is an obvious design choice to substitute one known cutter for another known cutter.

7. Claims 1, 3-7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoebe (US 6357831) in view of Bechem et al..

Stoebe discloses a rock boring machine, a rock boring device is mounted on a boom, the boom can pivot about both a horizontal and vertical axis. The rock boring device is pivotable about a transverse axis to the boom. The rock boring machine is anchored (see Figs. 1,2). Stoebe discloses the invention substantially as claimed. However, Stoebe's rock boring device is not a rotary disc that can oscillate and nutate. Bechem et al. teaches an oscillating and nutating rotary cutter (see Figs. 2, 6 col. 2 lines 32-60). Roller cone cutters, hemispherical cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al. US 4341273). It would have been considered obvious to one of ordinary skill in the art to modify Stoebe by substituting the rock boring device as taught by Bechem et al. with the hemispherical cutters replaced with disc cutters as is well known and old in the art for the rock boring device disclosed by Stoebe since it cuts more effectively.

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8. Claims 1, 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubois (US 3663054) in view of Bechem et al..

Dubois discloses a rock boring machine, a rock boring device is mounted on a boom, a plurality of rock boring devices are carried by the rock boring machine (see Fig. 1). Dubois discloses the invention substantially as claimed. However, Dubois's rock boring devices are not rotary discs that can oscillate and nutate. Bechem et al. teaches an oscillating and nutating rotary cutter (see Figs. 2, 6 col. 2 lines 32-60). Roller cone cutters, hemispherical cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et). It would have been considered obvious to one of ordinary skill in the art to modify Dubois by substituting the rock boring device as taught by Bechem et al. with the hemispherical cutters replaced with disc cutters as is well known and old in the art for the rock boring devices disclosed by Dubois since it cuts more effectively.

9. Claims 1, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 6062650) in view of Bechem et al..

Smith et al. discloses a rock boring machine, a rock boring device is mounted on a boom, the angle of the rock boring device is controlled by a computer program (see col. 9 line 10+). Smith et al. discloses the invention substantially as claimed. However, Smith et al. rock boring device is not a rotary disc that can oscillate and nutate. Bechem et al. teaches an oscillating and nutating rotary cutter (see Figs. 2, 6 col. 2 lines 32-60). Roller cone cutters, hemispherical cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et). It would have been considered obvious to one of ordinary skill in the art to modify Smith et al. by substituting the rock

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boring device as taught by Bechem et al. with the hemispherical cutters replaced with disc cutters as is well known and old in the art for the rock boring device disclosed by Smith et al. since it cuts more effectively.

10. Claims 1, 2, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goode (US 4417379).

Goode discloses a rock boring device (see Fig. 2) including a rotary cutter (12), wherein said rotary cutter is driven in an oscillating manner and movable in a nutating manner (see col. 2 lines 1-35, col. 3). The mounting section is angularly offset from the driven section (see Fig. 2). Goode discloses the invention substantially as claimed. However, Goode is silent about his cutter being a disc cutter. Roller cone cutters, milling cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al. US 4341273). It would have been considered obvious to one skilled in the art to modify Goode by substituting a cutter (disc) as is well known in the art for the milling cutter as disclosed by Goode since it is an obvious design choice to substitute one known cutter for another known cutter.

11. Claims 1, 3-7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoebe (US 6357831) in view of Goode.

Stoebe discloses a rock boring machine, a rock boring device is mounted on a boom, the boom can pivot about both a horizontal and vertical axis. The rock boring device is pivotable about a transverse axis to the boom. The rock boring machine is

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anchored (see Figs. 1,2). Stoebe discloses the invention substantially as claimed.

However, Stoebe's rock boring device is not a rotary disc that can oscillate and nutate.

Goode teaches an oscillating and nutating rotary cutter (see Figs. 2, col. 2 lines 1-35, col. 3). Roller cone cutters, milling cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et al. US 4341273). It would have been considered

obvious to one of ordinary skill in the art to modify Stoebe by substituting the rock boring device as taught by Goode with the milling cutters replaced with disc cutters as is well known and old in the art for the rock boring device disclosed by Stoebe since it cuts more effectively.

12. Claims 1, 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubois (US 3663054) in view of Goode.

Dubois discloses a rock boring machine, a rock boring device is mounted on a boom, a plurality of rock boring devices are carried by the rock boring machine (see Fig. 1). Dubois discloses the invention substantially as claimed. However, Dubois's rock boring devices are not rotary discs that can oscillate and nutate. Goode teaches an oscillating and nutating rotary cutter (see Figs. 2, col. 2 lines 1-35, col. 3). Roller cone cutters, milling cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et). It would have been considered obvious to one of ordinary skill in the art to modify Dubois by substituting the rock boring device as taught by Goode with the milling cutters replaced with disc cutters as is well known and old in the art for the rock boring devices disclosed by Dubois since it cuts more effectively.

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13. Claims 1, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 6062650) in view of Goode.

Smith et al. discloses a rock boring machine, a rock boring device is mounted on a boom, the angle of the rock boring device is controlled by a computer program (see col. 9 line 10+). Smith et al. discloses the invention substantially as claimed.

However, Smith et al. rock boring device is not a rotary disc that can oscillate and nutate. Goode teaches an oscillating and nutating rotary cutter (see Figs. 2, col. 2 lines 1-35, col. 3). Roller cone cutters, milling cutters, disc cutters etc. are all well known and old cutters (see col. 7 of Walker et). It would have been considered obvious to one of ordinary skill in the art to modify Smith et al. by substituting the rock boring device as taught by Goode with the milling cutters replaced with disc cutters as is well known and old in the art for the rock boring device disclosed by Smith et al. since it cuts more effectively.

Response to Arguments

14. Applicant's arguments with respect to claims 1-7, 11-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

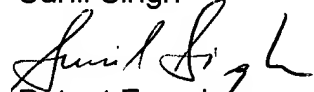
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (703) 308-4024. The examiner can normally be reached on Monday through Friday 8:30 AM-5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703) 308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

Sunil Singh



Patent Examiner

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SS

CS
October 17, 2003